

**REMARKS**

Applicants and their counsel wish to express their thanks to Examiner Dinh for his courtesy and frankness during the telephone interview on September 20, 2004.

Applicants here amend Claims 1, 2 and 4 to overcome the PTO's rejection of the claims under 35 U.S.C. § 112(2).

Applicants request reconsideration and withdrawal of the rejections under Section 103 for alleged obviousness. None of the cited patents discloses the existence, or adverse consequences, of ERGD events referred to in each of Applicants' claims. None of the cited patents disclose or suggest mitigating ERGD events in any way, let alone with the means and methods that Applicants claim.

For example, Claim 1 calls for systems that mitigate ERGD events. This system includes means for biasing the infrared sensors' earth scans away from the ERGD areas on the earth to mitigate these events. None of the cited references discloses or suggests any such means for this purpose.

Claims 2 and 3 call for systems that mitigate ERGD events by inhibiting at least one of a satellite's infrared sensors' scans while the satellite carrying the system is passing over ERGD areas on the earth. None of the cited references discloses or suggests any such means for this purpose.

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Nor does any cited reference disclose or suggest any methods for mitigating disturbances in the roll and pitch of an earth satellite in an inclined, elliptical orbit, where the disturbances arise from ERGD events in earth areas that a satellite's infrared sensors' scan traverses. The claimed methods of Applicants' Claims 4 – 7 include the steps of determining where the ERGD areas are located, and then mitigating the effects of ERGD events in these areas.

The cited references do not disclose or suggest the existence of ERGD events, or ERGD areas, and do not disclose or suggest that such events adversely affect satellites traversing areas where these events occur. None of the cited references disclose means or methods for overcoming the effects of ERGD events in ERGD areas. During the interview, Examiner Dinh agreed that the cited Leung patent does not disclose or suggest adding yaw biasing or DIRA's to infrared earth sensors on any satellites for mitigating ERGD events while such satellites traverse ERGD areas.

Nor does either the cited Fallon patent or the cited Lievre patents disclose any need or reason to mitigate ERGD events. Applicant's claims all call for inhibiting one or more of the satellite-borne infrared earth sensors in ERGD areas, using yaw biasing or DIRAs while inhibiting one or more infrared sensors, and then turning off the DIRA or yaw biasing after the satellite leaves ERGD areas. Outside such areas, only the infrared sensors are active. Applicants' systems and methods inhibit one or more of a satellite's infrared earth sensors only while the satellite traverses ERGD areas, to mitigate the effects of ERGD events in such areas. After the satellite passes out of ERGD areas, the satellite again relies upon its plurality of infrared earth sensors, without yaw biasing or DIRAs.

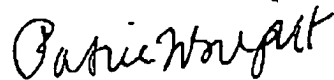
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Applicants' counsel would welcome a telephone conference with Examiner  
Dinh to discuss any new or other issue at any time.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Claims**

1. (CURRENTLY AMENDED) A system for mitigating ERGD events affecting the pitch and roll attitude of a satellite in an inclined, elliptical earth orbit which comprises a plurality of infrared earth sensors for determining satellite roll and pitch connected to means for yaw biasing said infrared earth sensors' earth scans away from ERGD areas on the earth.

2. (CURRENTLY AMENDED) A system for mitigating ERGD events affecting the pitch and roll of a satellite in an inclined, elliptical earth orbit which comprises a plurality of infrared earth sensors for determining satellite roll and pitch connected to means for inhibiting at least one of said infrared earth sensors' scans while said scan passes over ERGD areas on the earth.

4. (CURRENTLY AMENDED) A method for mitigating disturbances in roll and pitch of an earth satellite in an inclined, elliptical orbit, said disturbances arising from ERGD events in earth areas that [said] the satellite's ES scan traverses, said satellite including infrared earth sensors for satellite roll and pitch attitude control, comprising determining where said areas are located, and mitigating the effect of said ERGD events in said areas.